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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/688,504	10/17/2003	Chai-Mei Jimmy Yu	INSIG1.001AUS	1989

20995 7590 03/27/2006

KNOBBE MARTENS OLSON & BEAR LLP  
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IRVINE, CA 92614

EXAMINER
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CHOI, FRANK I

ART UNIT	PAPER NUMBER
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1616

DATE MAILED: 03/27/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/688,504

Applicant(s)

YU ET AL.

Examiner

Frank I. Choi

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-35 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-35 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>2/23/2004</u> . | 6) <input type="checkbox"/> Other: ____.  |

## **DETAILED ACTION**

### ***Information Disclosure Statement***

The information disclosure statement filed 2/23/2004 fails to comply with the provisions of 37 CFR 1.97, 1.98 and MPEP § 609 because the abstracts are not Foreign Patent Documents; only the original Chinese language patent documents would constitute foreign patent documents. The abstracts should be listed under "Other Document". It has been placed in the application file, but the information referred to therein has not been considered as to the merits.

### ***Specification***

The use of the trademark TRITON has been noted in this application. It should be capitalized wherever it appears and be accompanied by the generic terminology.

Although the use of trademarks is permissible in patent applications, the proprietary nature of the marks should be respected and every effort made to prevent their use in any manner which might adversely affect their validity as trademarks.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 3-6,9,10,12,13,18-22,25-30, 33,35 contains the trademark/trade name TRITON.

Where a trademark or trade name is used in a claim as a limitation to identify or describe a particular material or product, the claim does not comply with the requirements of 35 U.S.C. 112, second paragraph. See *Ex parte Simpson*, 218 USPQ 1020 (Bd. App. 1982). The claim scope is uncertain since the trademark or trade name cannot be used properly to identify any particular material or product. A trademark or trade name is used to identify a source of

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goods, and not the goods themselves. Thus, a trademark or trade name does not identify or describe the goods associated with the trademark or trade name. In the present case, the trademark/trade name is used to identify/describe a non-ionic surfactant and, accordingly, the identification/description is indefinite.

***Claim Rejections - 35 USC § 102/103***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 11, 14 are rejected under 35 U.S.C. 102(b) as being anticipated by Stathatos et al..

Stathatos et al. expressly discloses a method of preparing a nanocrystallite titanium dioxide thin film by a reverse micelle process using a non-ionic surfactant, water and cyclohexane, where the substrate, glass, is coated by dipping, the coating is dried and then the organic components are burned out (pgs. 83-87).

Claims 1-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Stathatos et al. in view of Yamada et al. (US Pat. 5,897,958), Ogawa et al. (US Pat. 6,106,955) and Makita et al. (US Pat. 4,993,354)

Stathatos et al. discloses a method of preparing a nanocrystallite titanium dioxide thin film by a reverse micelle process using a titanium alkoxide, i.e. 0.2M of titanium isopropoxide, non-ionic surfactant, i.e. 0.2 M of Triton® X-100, water (0.4 M) and cyclohexane, where the substrate, glass, is coated by dipping, the coating is dried and then the organic components are burned out (pgs. 83-87).

Yamada et al. discloses that for convenience of handling the titanium oxide can be in the form of a mixture of titanium alkoxide and titanium acetylacetonate (Column 7, lines 29-56). It is disclosed that the titanium oxide containing film can be formed on various substrates, such as glasses and ceramics, by dipping, drying and heat-treating and that said film exhibits antibacterial activity (Column 8, lines 1-57). An example is disclosed in which prior to baking, the coating was dried at 120 degrees Celcius (Example 2).

Ogawa et al. discloses coating of stainless steel with a titanium oxide film process includes heat treatment at a temperature range of from 200 to 600 degrees Celcius at a time of 10 to 300 minutes (Column 8, lines 4-24, lines 38-53). It is disclosed that the titanium oxide film has antifungal and sterilizing functions and can be prepared by hydroxlysis of metal alkoxide and a sol-gel method and dip coated (Column 6, lines 65-68, Column 7).

Makita et al. discloses dip coating of a substrate, such as ceramic, metal or glass, in a coating liquid containing titanium alkoxide which can be lowered from the substrate at constant rate, such as about 2 mm/sec or about 3 mm/sec, and the coating dried and than heated (Examples 1 and 2, Column 6, lines 1-8).

The difference between the prior art and the claimed invention is that the prior art does not expressly disclose using a 2,4-diketone, such as acetyl acetone, a specified withdrawal speed,

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a specified drying and calcining temperature and time, a substrate of stainless steel or method for killing bacteria and viruses. However, the prior art amply suggests the same as the prior art discloses the use of acetylacetone, withdrawal speeds falling within the claimed ranges, drying and calcining temperatures and times overlapping or within the claimed ranges and that titanium oxide films have antimicrobial and sterilizing activity. As such, it would have been well within the skill of and one of ordinary skill in the art would have been motivated to modify the prior art as above with the expectation that the coated substrate would be effective against bacteria and viruses, that use of acetyl acetone would improve ease of handling titanium oxide and that the withdrawal times and drying and calcining temperatures and times could be varied as desired, including within the claimed ranges, depending on coating thickness and coverage desired, substrate used and time necessary to dry the coating and for calcining the coating on the substrate.

Therefore, the claimed invention, as a whole, would have been *prima facie* obvious to one of ordinary skill in the art at the time the invention was made, because every element of the invention has been collectively taught by the combined teachings of the references.

### ***Conclusion***

A facsimile center has been established in Technology Center 1600. The hours of operation are Monday through Friday, 8:45 AM to 4:45 PM. The telecopier number for accessing the facsimile machine is 571-273-8300.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Frank Choi whose telephone number is (571)272-0610. Examiner maintains a flexible schedule. However, Examiner may generally be reached Monday-Friday, 8:00 am – 5:30 pm (EST), except the first Friday of the each biweek which is Examiner's normally scheduled day off.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's Supervisor, Mr. Gary Kunz, can be reached at 571-272-0887. Additionally, Technology Center 1600's Receptionist and Customer Service can be reached at (571) 272-1600.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

FIC

March 18, 2006



SABIHA QAZI, PH.D  
PRIMARY EXAMINER